



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,974	01/18/2002	Santosh C. Lolayekar	MARA-01007US0 SBS	8981
20910	7590	12/03/2004	EXAMINER	
FLIESLER MEYER, LLP FOUR EMBARCADERO CENTER SUITE 400 SAN FRANCISCO, CA 94111			PORTKA, GARY J	
		ART UNIT	PAPER NUMBER	
		2188	6	
DATE MAILED: 12/03/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/050,974	LOLAYEKAR ET AL.
	Examiner	Art Unit
	Gary J Portka	2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 January 2002 and 28 April 2003.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-50 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-29,31-42 and 44-50 is/are rejected.
 7) Claim(s) 30 and 43 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 18 January 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2, 5</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

1. Claims 1-50 are presented for examination.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 18 January 2002 and 28 April 2003 were considered by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-16, 18-24, 26-28, 31-41, and 44-50 are rejected under 35 U.S.C. 102(e) as being anticipated by Reuter et al., US 6,745,207 B2.
5. As to claims 1-3, 8, 15, 34, Reuter discloses a switch and method for use by a switch in a storage network (see Abstract, Figs. 1 and 2, col. 3 lines 39-41, and col. 4 lines 6-7), comprising automatically obtaining information about performance characteristics of a physical device having one or more logical units (see col. 5 lines 4-8, col. 7 lines 43-60), and based on the characteristics assigning the units to a storage pool (col. 7 lines 43-60; where the characteristics total capacity, free/used capacity, reliability, and location must be obtained, and are used to organize the data containers into categories).

6. As to claims 4, 9-10, 35, Reuter provisions a virtual target (Virtual Disk) using LU's (see col. 5 lines 42-46, and col. 7 lines 51-52).

7. As to claims 5 and 11, Reuter discloses provisioning a virtual target in accordance with user selected criteria (see Abstract last sentence, col. 1 line 64 to col. 2 line 12).

8. As to claims 6 and 12, Reuter discloses an LU object as the data container object 160' (see col. 8 lines 4-9).

9. As to claims 7 and 13, Reuter discloses the pool is defined by the LU's, since they are comprised of them (see col. 7 lines 28-48).

10. As to claim 14, the policy defining a pool encompasses the LU's as recited since the pool is comprised of them (see col. 7 lines 43-47).

11. As to claims 16, Reuter discloses associating a virtual target with a user domain (see col. 5 lines 22-36, where a virtual disk is associated with hosts through a host agent).

12. As to claims 18-22 and 24, Reuter discloses additionally to that described above a request from a user for a virtual target (a virtual disk), including size and pool, and automatically determining if resources meet the size specified, plus desired availability (see col. 12 lines 3-7 and 18-38, also related Figs. 8-13).

13. As to claims 23, 36, Reuter discloses provisioning an initiator connection (see col. 6 lines 41-44, col. 12 lines 45-49, and Fig. 14).

Art Unit: 2188

14. As to claims 26-28, Reuter discloses the Quality of Service policy as recited since it includes provisioning a virtual target and initiator which are disclosed as described above with regard to e.g. claims 4 and 23.

15. As to claims 31-33, Reuter discloses the claimed invention substantially as described above with regard to claims 1, 4, and 18; the request also includes minimum bandwidth to the extent recited since at a minimum the RAID policy selected (Fig. 10) will dictate bandwidth.

16. As to claims 37-41, Reuter discloses the claimed invention substantially as described above with regard to claims 1, 4, and 18; the database is seen as the area storing e.g. the data container objects, and the recited extents are required in order provide a virtual disk independent of the physical storage (see col. 5 lines 42-54).

17. As to claims 44-50, Reuter discloses the claimed invention substantially as described above with regard to claims 1, 4-7, 14, 16, and 18.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 17, 25, 29, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reuter et al., US 6,745,207 B2, in view of Pellegrino et al., US Patent 6,725,393 B1.

Art Unit: 2188

20. As to claims 17, 25, 29, and 42, Reuter discloses the invention substantially as recited as described above. Reuter does not disclose a second switch to a second virtual target that is associated with the user domain so that it is also accessible by the initiator. It is noted that Reuter does allow an initiator access to more than one virtual disk via its user domain (mapped by the host agent, see col. 5 lines 26-41). Therefore, Reuter simply does not teach that a second switch may be used in this implementation. However, it was known to use a plurality of interconnected switches in analogous SAN systems for the purpose of providing redundancy in case of any failures, see Pellegrino Fig. 1 and col. 2 lines 28-49. The use of a second switch in Reuter would have improved reliability by providing a redundant unit in case of failure. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use the second switch as recited, because this would have improved the reliability of the system.

Allowable Subject Matter

21. Claims 30 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent No:

6,496,914 SAN identifying different class devices using LUN signatures.

6,446,141 Intelligent SAN that ranks data source.

6,253,240 Manager obtaining configuration from SAN devices.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J Portka whose telephone number is (571) 272-4211. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gary J Portka
Primary Examiner
Art Unit 2188

November 22, 2004